Book Reviews and Journal Notes

Science Citation Index 1961. Philadelphia, Institute for Scientific Information, 1963. 5 v. $700.

Science Citation Index 1964. Philadelphia, Institute for Scientific Information, 1964. Quarterly plus annual cumulation. Rate A—Educational, etc.: $1,250. Rate B—Industrial, Public, and Society Libraries, etc.: $1,950.

In today's age of man-made wonders, superlatives such as "stupendous" and "colossal" have ceased to have the meaning and the impact which they evoked some years ago. Nevertheless, it is to such a word that one turns for an overall description of the *Science Citation Index;* it must be regarded as a monumental undertaking and achievement. Works such as this do not spring full blown from the head of Zeus, and the many years of research, experimentation, and refinement which have gone into this production may be traced through the professional literature. The work itself must be examined in two pieces, as indicated above, because the projected changes in the 1964 *Index* warrant special consideration.

Before examining the *Index* in detail, a brief summary of what it is and what it attempts to do seems appropriate. The citation index examines the bibliography (reference articles) attached to a paper (source article) and makes entries for each of the items listed. To these entries it adds the information that ties the reference article to the source article which cited it. These entries are then manipulated by machine and a listing produced in which the REFERENCE article appears as the main entry, and the SOURCE articles which cited it follow chronologically with an alphabetical suborder by author of the source article (this arrangement is more difficult to describe than it appears upon examination of the *Index*).

This type of arrangement provides several uniquely useful advantages: (1) It enables the user who is already aware of an important reference article to find later work on the subject without knowing what subject headings would be appropriate or how they might have changed and without knowing which workers were interested in the field (thus eliminating subject and author approach difficulties). (2) It provides a partially complete ready-made bibliography which brings the user forward in time from the earliest work (reference article). (3) It provides an evaluative approach which is independent of the searcher, but which is based on whether the author's peer group has found his work useful (it does not of course preclude the searcher's own evaluations). (4) Because the *Index* is interdisciplinary in scope, it presents the possibility of discovering subsequent

work in a field which was reported in an unexpected journal or in one which might not be indexed by the subject indexes for a given field. These are some of the possible advantages; librarians who must compile curricula vitae will surely see other uses, as will others who have special literature problems.

The 1961 *Science Citation Index* covers 613 journals, which are interdisciplinary and international. The greatest number are in English and in the subject areas of the physical and life sciences, although there is also a sprinkling of journals in the social sciences. These 613 journals were treated comprehensively (cover to cover), and all 1961 issues were indexed. Where reference articles consisted of nonjournal items or personal communications, etc., these were also included; the source articles in these 613 journals numbered 102,000 and yielded 1,400,000 citations.

No publication can hope for perfection, especially in the difficult period of trial and development, and this index has not been granted immunity from defect. The defects are of two kinds, physical and, for want of a better term, mechanical-intellectual.

The only physical defect is the size of the print. The *Index* is, of course, computer produced (IBM 1401, 1410, 7074), and the print-out is created on the IBM 1403 chain printer of the 1401 system. The print-out is clear, clean, and, if one disregards the esthetic quibbles of those constitutionally opposed to reading all capitals and an IBM font, easily readable in the original size. However, the original 51 character column which occupied approximately 5¼" has been photoreduced to approximately 1¾" in order to print four columns to the page. This is not a minor problem, as those who have spent even a half hour searching the January–April 1964 *Index Medicus* will be aware (it is half the size of those columns). In an index which is unique and as potentially useful as this, it is a pity that economy should dictate print size which makes the index verge on unreadability. It is true that the *Index* is very expensive, but, because it is so, a greater additional cost to cover another volume would probably be no harder to justify in many libraries than the present price. It is to be hoped that the Institute will seriously consider reducing the number of columns to three per page.

The physical attributes of the volumes are numerous: running heads are provided (although it would be a great advantage to have the right-hand running head on the right-hand margin, instead of in the gutter of the volume); clear and enlarged sample columns which explain how to use the *Index* are provided on the paste-down endpapers of each volume; the columns are numbered as well as the pages for ease in referral; the quality of the printing is good, and shading from dark black to gray seems

to be minimal; the paper is white and of apparent quality (unlike that of the *Cumulated Index Medicus*); the binding is satisfactory; and the five volumes are small enough so that the weight of the pages is not likely to tear them out of the casing.

One must briefly outline the mechanical-intellectual problems from which the *Index* suffers, although it is realized that some of these defects are inherent in the technology rather than due to lack of planning.

The user is confronted, especially in looking up a common name such as "Smith," with many reference and source articles which are indistinguishable as to author. This situation is, naturally, not the fault of the compilers, but rather of the authors, and brings up the interesting problem of responsibility of the author in preparing an article for publication. If he signs his name with one initial in one article and two initials in another, the two variations will rarely appear in proximity to each other in this type of index, and, if he uses no initials at all, columns of "Smiths" evolve which are difficult to identify. Similarly, unsigned editorials end up in the many pages of anonymous entries which are arranged by journal title at the end of volume 5.

This brings us to the next problem in the use of this genre of work, and that is that it is an "in-group" tool. One must know the article which is of interest BEFORE starting to use the *Science Citation Index*. Although there is a "Source Article Index," it does not give titles, and what is completely lacking is a "Reference Article Index" which would give the bibliographic data for the reference articles. The latter is not even contemplated, but would be an immense advantage to the user. One cannot, therefore, use the *Index* to compile a bibliography without consulting another tool which will give the missing elements needed to complete the citation.

The system of deriving acronyms for book and journal titles is unfortunate in that the same acronym may mean different things in various parts of the *Index*. The fact that this difficulty is acknowledged and explained in terms of the original rationale of the work does little to solve the problem, and it is to be hoped that a more satisfactory solution can be evolved.

The *Science Citation Index 1964* does indeed provide solutions to some of the problems mentioned above, and it is regrettable that a sample copy of the first quarterly issue was not available for review at this time. The Institute, however, provided some sample columns and information which make possible a brief discussion of this work.

The scope of the *Index* has been increased and, one assumes, will continue to expand. The "Source Article Index" has had the title of the arti-

cle added. This addition will make the work much more useful and will enable some of the problems which arise in the area of doubtful subject or author identity to be solved, albeit in a roundabout fashion. Cross-references from additional authors have been added (none existed in the 1961 volumes), and the nature of the source item, i.e., editorial, journal article, book review, etc., is also given.

The format is not scheduled to change, although the hope for larger print size is held forth as a possibility. Such an improvement, as indicated above, would be extremely desirable.

It may be surmised that the use of an interdisciplinary tool is likely to increase the demand on libraries for obtaining articles found through the *Index*, thus stimulating interlibrary loan activity. It should be noted in this connection that the Institute for Scientific Information maintains a service called OATS (Original Article Tear Sheet) which aims to provide the articles which are not readily available in local areas.

It is extremely difficult at this time to predict how useful the *Index* will be in any individual library, but it is safe to assume that, as it increases its coverage and builds a backlog of annual indexes, it will become more and more important as a searching tool. It is unlikely that the *Index* will be used by readers, however, unless the library staff is able to demonstrate the utility and advantages of the *Index*. It will be important, therefore, that the *Index* be clearly explained to all staff members and especially to those who must aid the user in his library searches. The feed-back expected from users by the Institute also makes it desirable for library staff to be aware of how and why the *Index* is used and where it succeeds and where it fails.

The extremely high cost of the work may make it inaccessible to all but the more affluent libraries or those libraries which serve as the major resource for their geographic area (affluent or not, such institutions will be forced to acquire it). The cost, however, should not be the deciding factor in the acquisition decision, for the importance of the undertaking, even on an experimental basis, is so great that we would be remiss to deny our support to the *Index* solely on such a mundane basis. It is obvious that the *Index* will be of greater value to an institution which must support an active teaching and research program than to a small hospital library, and it would seem doubtful that the limited use which might be made of it in the latter case would justify the expenditure.

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